

## ABSTRACT OF THE DISCLOSURE

A method, apparatus and computer program product for parallel execution of primitives in 3D graphics engines. It includes detection and preservation of dependences between graphics primitives with the ability to execute multiple independent primitives concurrently while preserving their ordering because the architecture of the graphics engine for the present invention further provides concurrent resources for parallel execution. In a first preferred embodiment, primitives are executed in parallel using an in-order dispatch unit capable of detecting dependencies between primitives. In a second preferred embodiment, an out-of-order dispatch unit is used such that not only are primitives executed concurrently; but, the primitives may be executed in any order when dependencies are detected.